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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT : Yong Yan
SERIAL NO. : 09/922,142 EXAMINER : Allen C. Wong
FILED : August 3, 2001 ART UNIT : 2613
FOR : AUTOMATED MASK SELECTION IN OBJECT-BASED VIDEO
ENCODING

REPLY BRIEF TRANSMITTAL LETTER

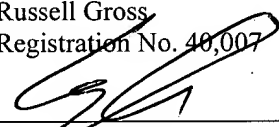
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P.O. Box 1450
Alexandria, VA. 22313-1450

Dear Sir:

Appellants respectfully submit three copies of a Reply Brief For Appellants that includes an Appendix with the pending claims. The Reply Brief is now due on Saturday, July 23, 2005.

Should the Examiner deem that there are any issues which may be best resolved by telephone communication, kindly telephone Applicants undersigned representative at the number listed below.

Respectfully submitted,
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By: Steve Cha
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Date: July 25, 2005

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Steve Cha, Reg. No. 44,069
(Name of Registered Rep.)


(Signature and Date)



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Before the Board of Patent Appeals and Interferences

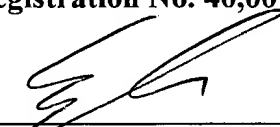
In re the Application

Inventor : Yong Yan
Application No. : 09/922,142
Filed : August 3, 2001
For : AUTOMATED MASK SELECTION IN OBJECT-BASED VIDEO ENCODING

REPLY BRIEF

On Appeal from Group Art Unit 2613

Russell Gross
Registration No. 40,007


By Steve Cha
Attorney for Applicant
Registration No. 44,069

Date: July 25, 2005

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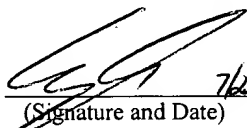
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I. REAL PARTY IN INTEREST

The real party in interest is the assignee of the present application, U.S. Philips Corporation, and not the party named in the above caption.

II. RELATED APPEALS AND INTERFERENCES

Reference is made to the statements made in the Appeal Brief.

III. STATUS OF CLAIMS

Reference is made to the statements made in the Appeal Brief, to which the Examiner concurs.

IV. STATUS OF AMENDMENTS

Reference is made to the statements made in the Appeal Brief, to which the Examiner concurs.

V. SUMMARY OF CLAIMED SUBJECT MATTER

Reference is made to the statements made in the Appeal Brief, to which the Examiner concurs.

VI. GROUND FOR REJECTION TO BE REVIEWED ON APPEAL

The issues, to which the Examiner concurs, in the present matter, and repeated herein, are whether:

1. claims 1-5, 7-15, 17-24 and 26-28 are anticipated under 35 USC §102(e) by Chen; and

2. claims 6, 16 and 25 are obvious under 35 USC §103(a) in view of the combination of Chen and Sekiguchi.

VII. CLAIMS ON APPEAL

Reference is made to the claims contained in the Appendix to the Brief, to which the Examiner concurs.

VIII. ARGUMENT

I. Rejection of Claims 1-5, 7-15, 17-24 and 26-28

Under 35 USC §102(e) in view of Chen.

Claims 1-5, 7-15, 17-24 and 26-28 stand rejected under 35 USC §102(e) as being anticipated by Chen (USP No. 6,208,693).

In response to Applicant's arguments provided in Applicant's Brief, the Examiner's Answer, on page 10, lines 4-12, again, makes reference to col. 6, lines 47-52 and steps 510 and 515 of Figure 5 of the cited reference for anticipating the elements of the claims.

Col. 6, lines 47-52, states, in part "color extractor and shape mask generator 249 generates and outputs a shape mask identifying the shape of the video object. The shape mask can be generated as a binary map (e.g., a 1 or 0 for each pixel) or a gray scale map identifying whether each pixel is either inside or outside the video object."

The reference section in Chen, accordingly, discloses a coding method wherein the content of the shape mask generated maybe one that indicates a pixel is part of or not

part of an object or some form of gray scale mapping of the pixels in an object, and the content identifies the shape of the object.

Contrary to the statements made in the Examiner's Answer, the coding method as presented by the content of the shape mask cannot be said to be the same as the element "one of a plurality of mask types based on the evaluation of the object" as is recited in claim 1. Rather, the contents of the shape mask represent the shape of an object and does not represent a mask type that is determined based on an evaluation of the object.

Chen, however, refers to a mask type in the use of a bounding box, wherein "only macroblocks in the bounding box are processed." (see col. 7, lines 1-2). In this case, the bounding box mask type may be used to limit the processing of the shape mask generator to those pixels within the bounding box, or may be used to determine whether "macroblocks within the bounding box are either 1) inside the object; 2) outside the object; or 3) on the object boundary. (see col. 7, lines 15-21). Hence, in the case where Chen refers to a mask type, i.e., the bounding box mask type, the mask type is not determined "based on the evaluation of the object" as is recited in claim 1. Rather the bounding box is chosen for what appears to be that pixels are typically organized in macroblocks and the known number of macroblocks may fit into the square or rectangular construction of the bounding box.

With regard to the reference of steps 510 and 515 in Figure 5, the Examiner's Answer states that "segmentation of the video object ... is the evaluation of the video object ... so that a plurality of mask types (i.e., bounding box with identified macroblocks) can be generated for the video object." (see page 10, lines 7-13).

Contrary to the statement made in the Examiner's Answer, Chen fails to determine a mask type based on the evaluation of the object. Rather, Chen teaches that the segmentation of the image and then uses a bounding box to determine the shape of the object within the bounding box. The segmentation of the image cannot be said to be an evaluation of the object as the segmentation merely describes a process for dividing the image into sections (the sections containing one or more objects).

Accordingly, Chen fails to anticipate the invention claimed as Chen fails to disclose the claim element of generating "one of a plurality of mask types based on the evaluation of the object" as is recited in claim 1.

In view of the above, applicant submits that claim 1 is patently distinguishable and patentable over the teaching of Chen.

With regard to independent claims 11 and 20, these claims recite subject matter similar to that recited in claim 1 and have been rejected for the same reason used to reject claim 1. However, claims 11 and 20 each disclose the element "a mask generation system that generates one of a plurality of mask types for the video object based on the evaluation of the video object," which is recited in claim 1. Accordingly, claims 11 and 20 include subject matter not disclosed by Chen and, thus, for the same remarks made with regard to claim 1, which are reasserted, as if in full herein, applicant submits that these claims are also patently distinguishable and allowable over the teachings of Chen.

With regard to dependent claims 2-5, 7-10, 12-19, 21-24 and 26-28, these claims depend from independent claims 1, 11 and 20, respectively, which have been shown to be patently distinguishable over the cited reference. Accordingly, these claims are also

patently distinguishable and allowable over Chen by virtue of their dependency upon an allowable base claims.

In view of the above, applicant submits that all of the above referred-to claims are patentable over the teachings of Chen.

II. Rejection of claims 6, 16 and 25 Under 35 USC §103(a)
in view of Chen and Sekiguchi

Claims 6, 16 and 25 stand rejected under 35 USC §103(a) as being obvious in view of combination of Chen and Sekiguchi. The Examiner's Answer states that "[t]he combination of Chen and Sekiguchi is combinable because both Chen and Sediguchi pertain to the same, analogous MPEG-4 video encoding/decoding environment. Thus, Chen and Sekiguchi are useable together because both teachings are applicable in the MPEG-4 ambiance, and, thus, the use of Sediguchi's circular criterion would not increase the computational requirements of the processor." (see page 12, line19-page 13, line 3).

As summarized in the Brief, Sekiguchi discloses a feature coding unit that extracts and encodes a feature of a video signal to generate a feature stream. In one embodiment, shown in Figure 2, and described, in part, in col. 14, line 46-60, Sekiguchi discloses that video content 111 is provided to a search processor 9 and the parameters used by the search processor 9 may "include color information, such as 'blue' and 'red', brightness information, relative area of segment, shape information (such as 'round' or 'rectangular') of the segment."

However, contrary to the position stated in the Examiner's Answer, the fact that Chen and Sekiguchi both are in the art of MPEG-4 encoding is not sufficient motivation

to combine the references as Chen fails to provide any motivation to include the teaching, and more particularly, the round shape information, of Sekiguchi as a bounding box.

Chen, as discussed above, discloses using a bounding box and the “position of the bounding box is chosen such that it contains a minimum number of 16 pixel x 16 pixel macroblocks. The encoding/decoding process is performed on a macroblock basis. In this manner, processing time can be reduced. (see col. 7, lines 7-10).

Contrary to the statements made in the Examiner's Answer, if a bounding box is a round shape, as suggested by Sekiguchi, then processing is complicated and increased as macroblocks on the boundary of the bounding box are contained partially in and partially out of the round bounding box. In this case, the blocks on the boundary box boundary must be identified and processed separately. This increases the processing required and is contrary to the teaching of Chen in using a bounding box that fits a known number of macroblocks.

Accordingly, one would not be motivated to combine the teachings of Chen and Sekiguchi, as suggested, as the use of a round bounding box would increase the processing required.

Furthermore, the proposed modification of Chen fails to establish a prima facie case of obviousness because, even if there were some motivation to develop the feature suggested, all of the claim elements are not taught or suggested by the combination of the teachings of the cited references. Rather, the proposed modification fails to generate “one of a plurality of mask types based on an evaluation of the object,” as is recited in the independent claims, as both Chen and Sekiguchi are silent with regard to this claim element.

Accordingly, the combination of Chen and Sekiguchi cannot be said to render obvious the invention recited in claim 6, as both Chen and Sekiguchi fail to recite an element recited in the independent claim 1, from which claim 6 depends.

In view of the above remarks, applicant submits that claim 6 is not rendered obvious and patentable over the teachings of Chen and Sekiguchi.

With regard to claims 16 and 25, these claims were rejected citing the same reason used to reject claim 6. However, claims 16 and 25 recite the same subject matter that is recited in claim 6. Accordingly, claims 16 and 25 also include subject matter not disclosed by the combined device of Chen and Sekiguchi and, thus, for the same remarks made with regard to claim 6, cannot be said to have been rendered obvious as suggested.

In view of the above, applicant submits that claims 6, 16 and 25 are patentable over the teachings of the cited references.

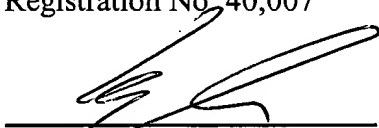
For at least all of the above reasons, the proposed combination of prior art references does not render obvious the present invention.

IX. CONCLUSION

In view of the above analysis, it is respectfully submitted that the referenced teachings, whether taken individually or in combination, fail to anticipate or render obvious the subject matter of any of the present claims. Therefore, reversal of all outstanding grounds of rejection is respectfully solicited.

Respectfully submitted,
Russell Gross
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Date: July 25, 2005

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